

What is claimed is:

1. A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels in a CDMA communication, comprising:

a path detector, which is used in a time-division manner so as to generate timing signals for the plurality of channels, for generating a timing signal corresponding to each of the plurality of channels according to a correlation between an input signal including the spread signals which are respectively transmitted over the plurality of channels and a spread code corresponding to each of the plurality of channels; and

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among the plurality of spread signals included in the input signal according to the timing signal generated by said path detector.

2. The receiving device according to claim 1, wherein said path detector comprises:

spread code generating means for generating spread

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codes corresponding to the plurality of channels in an order according to a predetermined algorithm;

a matched filter for outputting correlation level data between the input signal and the spread code generated by said spread code generating means; and

timing signal generating means for generating a timing signal based on the correlation level data.

3. The receiving device according to claim 1, wherein:

a spread signal transmitted over each of the plurality of channels includes pilot signals inserted at predetermined intervals; and

said path detector generates the timing signal by using the pilot signals for each of the plurality of channels.

4. The receiving device according to claim 1, which generates a timing signal by using a plurality of pilot signals for each of the plurality of channels, wherein said path detector comprises:

first path detecting means for detecting a path with a voltage addition operation if a correlation level between pilot signals is high;

second path detecting means for detecting a path

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with a power addition operation if the correlation between pilot signals is low; and

timing signal generating means for generating the timing signal based on the paths detected by said first and second path detecting means.

5. The receiving device according to claim 1, which generates a timing signal by using a plurality of pilot signals for each of the plurality of channels, wherein said path detector comprises:

path detecting means for detecting a path with an operation for adding an absolute value of correlation level data of each of the plurality of pilot signals; and

timing signal generating means for generating the timing signal based on the path detected by said path detecting means.

6. The receiving device according to claim 1, further comprising:

priority information storing means for storing information about priorities of the plurality of despread demodulators, wherein

said path detector operates for a despread demodulator determined based on the priority

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signals corresponding to the channels by using the pilot signals on the plurality of channels.

14. The receiving device according to claim 13,
 5 wherein said memory controlling means repeatedly reads the input signals from said memory a required number of times, according to the number of overlapping pilot signals.

15. The receiving device according to claim 13,
 10 wherein when the timings of the pilot signals on the plurality of channels overlap, only portions including the pilot signals within the input signals are stored in said memory.

16. The receiving device according to claim 1,
 further comprising:

delaying means for delaying a signal to be input
 to the plurality of despread demodulators by an amount
 20 of time required to generate the timing signal by said path detector.

17. The receiving device according to claim 3,
 further comprising:

25 a memory for storing at least a portion including

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19. A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels in a CDMA communication, comprising:

5 a plurality of despread demodulators, which are respectively arranged for the plurality of channels, for demodulating a spread signal transmitted over a corresponding channel by despreading the spread signal with a corresponding spread code; and

10 instructing means for instructing a phase of each spread code used for spreading each of the spread signals transmitted over the plurality of channels, wherein

15 said instructing means is shared by the plurality of despread demodulators.

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